

DESCRIPTION

The **SD012-UVB-005** is an AlGaIn-based **UVB** photodiode with a 0.076 mm² active area, SMT packaged. Unlike most UV detectors it cuts off unwanted visible light from its detection spectrum (**220-320nm**), thereby eliminating the need for optical filter.

RELIABILITY

This Luna high-reliability device is in principle able to meet military test requirements (Mil-STD-750, Mil-STD-883) after proper screening and group test. Contact Luna for recommendations on specific test conditions and procedures.

ABSOLUTE MAXIMUM RATINGS

SYMBOL	MIN		MAX	UNITS
Storage Temperature	-40	to	+125	°C
Operating Temperature	-30	to	+85	°C
Soldering Temperature	-	-	+260	°C
Forward Current	-	-	1.0	mA
Reverse Voltage	-	-	5.0	V

FEATURES

- Schottky Type Photodiode
- Photovoltaic Mode Operation
- Low Noise
- High Speed
- Visible Blindness

APPLICATIONS

- UVB Detection and Monitoring
- Medical
- Military

T_a = 23°C UNLESS NOTED OTHERWISE

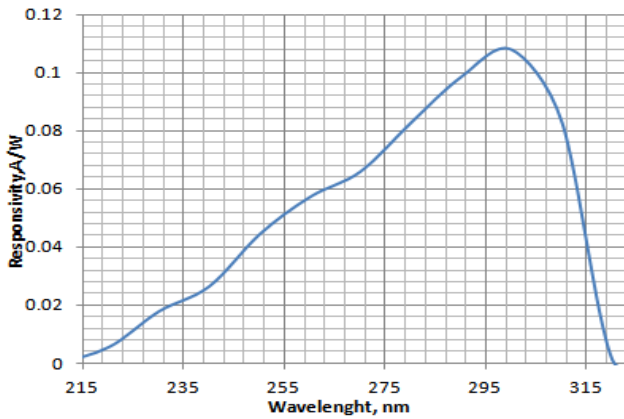
OPTO-ELECTRICAL PARAMETERS

T_a = 23°C UNLESS NOTED OTHERWISE

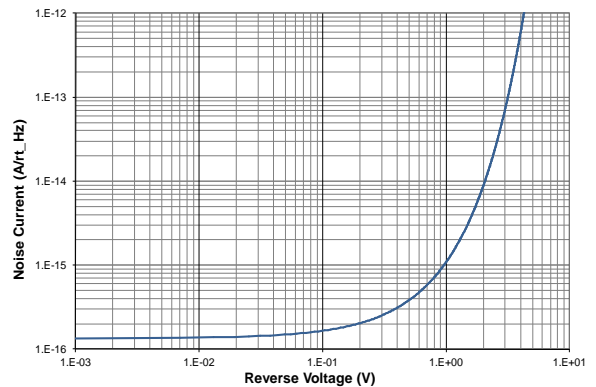
PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Dark Current	V _R = 0.1V	-	0.1	100	pA
Shunt Resistance	V _R = 10 mV	1.0	100	-	GΩ
Short Circuit Current	UVI=1.0	-	20	-	nA
Spectral Application Range	Spot Scan	220	-	320	nm
Responsivity Peak	λ = 300 nm V, V _R = 0 V	-	0.11	-	A/W
Capacitance	V _{bias} = 0V; f = 1 MHz	-	10	-	pF
Noise Equivalent Power	λ = 300 nm	-	1.6	-	10 ⁻¹⁷ W/Hz ^{0.5}

TYPICAL PERFORMANCE

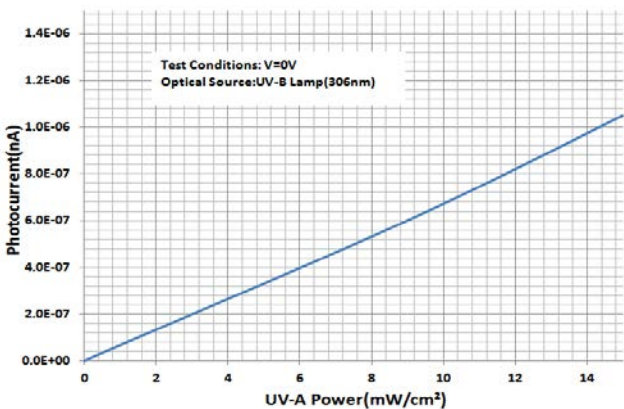
SPECTRAL RESPONSE



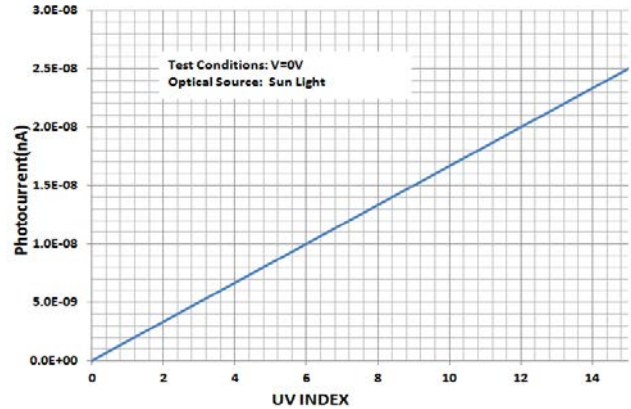
NOISE vs BIAS



UV-A PHOTOCURRENT



UV-I PHOTOCURRENT



REFLOW PROFILE

APPLICATION CIRCUIT

Information in this technical datasheet is believed to be correct and reliable. However, no responsibility is assumed for possible inaccuracies or omission. Specifications are subject to change without notice.

